

Diet in the Treatment of Diarrhea: From Tradition to Evidence

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(See the article by Huang et al. on pages 468–71).

Far into the 20th century, grandmothers were persistently stating that diet was the number one measure for treating diarrhea. The primary goal was to bring the “gut to rest,” and thus patients were starved to minimize stool frequency. In addition to or after fasting, rice, oat meal, thick semolina or water gruel, as well as bananas and bilberry juice, were recommended [1]. Although some physicians warned as early as 1924 that withholding fluids, in particular, was giving disastrous results [2], traditions lacking evidence have persisted in industrialized as well as developing countries, where restriction of diet may compromise the nutritional status of the patient even further and lead to malnutrition [3]. The average reduction of food intake in children during a diarrheal period is 30%–40% [4].

At present, it is commonly accepted that rehydration is the first goal of therapy [5]. Evidence also exists that, for children, continuous feeding is advantageous [6]. Mixed diets were as successful as highly

processed formulas, and dietary fiber reduced the duration of liquid stool excretion [7]. Dietary calcium results in resistance to enterotoxigenic *E. coli* infection and other gastrointestinal infections, but that is a protective effect and not a therapeutic observation [8]. Vitamin A was hardly beneficial, whereas zinc supplements decreased the duration of diarrheal illness [2]. Prolonged gastrointestinal symptoms due to temporary lactose intolerance are still subject to debate [2].

However, we must keep in mind that results of dietary investigations performed in often malnourished and usually infant populations in developing countries may not apply to previously well-fed adult patients. The textbook on travelers' diarrhea states that the “only consensus on diet is the primary need to maintain fluid intake and to provide at least limited calories” and discusses “controversy about the details of partial fasting and resumption of solid food” [9]. There seems to be additional agreement only on avoiding caffeine (including cola drinks), which stimulates intestinal motility. Although in vitro studies indicate that the amount of food, its form, the frequency of feeding, and the composition of diet each have important effects on gastrointestinal function and may be used to help ameliorate signs of gastrointestinal disease [10], until our understanding of such findings improves and

we have data proving a benefit for the target traveler population, we must remain pragmatic.

The pilot study presented by Huang et al. [11] is timely. At least for a small group of patients with travelers' diarrhea who were treated with antibiotics, it demonstrates that restrictive diet is of no significant benefit. Even if a larger study might report statistically significant results, it would hardly have any relevant benefit for travelers. Antimicrobial therapy, on average, limits the duration of illness to ~1 day, and the combination of an antimicrobial agent and loperamide limits illness to a matter of hours [12]. Such durations are likely too short to expect to see any clinically relevant benefits associated with diet in patients with diarrheal illness. On the other hand, data are needed to demonstrate the benefit of dietary restrictions or supplements in patients who are not receiving antibiotic treatment.

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